DOCUMENT RESUME

ED 128 150 RC 009 428

AUTHOR Hopkins, Thomas R.
TITLE Education Information at the BIA Central Office Level of Operation. Research and Evaluation Report Series No. 33.01.
INSTITUTION Bureau of Indian Affairs (Dept. of Interior), Albuquerque, N. Mex.
REPORT NO RER-33.01
PUB DATE 15 Apr 76
NOTE 25p.

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *Agency Role; Computer Oriented Programs; Delivery Systems; Information Needs; *Information Systems; Needs Assessment; *Relevance (Information Retrieval); *State of the Art Reviews; *Systems Analysis
IDENTIFIERS BIA; *Bureau of Indian Affairs

ABSTRACT

A description of the state of the art regarding Bureau of Indian Affairs (BIA) Education Information, with special emphasis on computer assisted information, is provided. A survey of BIA Central Office was conducted to: determine the total scope of Education Information currently being reported; identify the methods being used in developing the information; determine those developments that will add to and/or replace existing information; and provide an analysis of Education Information with recommendations. The existing situation was divided into three groups of systems: Education Information System, extant sub-systems created and maintained by administration, and extant sub-systems within education. Together these totaled 30 sub-systems. As a result of the survey, the BIA's computer modernization program was begun. An Education Information System was proposed. The proposed Education Information System is composed of 6 Information Categories and 23 sub-systems. The six Information Categories are: School Operations, Facilities, Public School Assistance, Career Development, Education Research and Evaluation, and Building Maintenance. Although the Bureau's computer modernization program is having some frustrating moments for Fiscal Year 1976, there is spontaneous support throughout BIA, at all levels, for modernization. Significant efforts exist at the Area Office Level of operation. (NQ)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED128150

RESEARCH AND EVALUATION REPORT SERIES NO. 33.01

EDUCATION INFORMATION AT THE BIA CENTRAL OFFICE LEVEL OF OPERATION

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

A PAPER PREPARED
BY
THOMAS R. HOPKINS, CHIEF
DIVISION OF EVALUATION,
RESEARCH, AND DEVELOPMENT

INDIAN EDUCATION RESOURCES CENTER
BUREAU OF INDIAN AFFAIRS
P. O. BOX 1788
ALBUQUERQUE, NEW MEXICO 87103

RC009428

APRIL 15, 1976

THOMAS R. KLEPPE, SECRETARY
UNITED STATES DEPARTMENT OF THE INTERIOR

MORRIS THOMPSON, COMMISSIONER
BUREAU OF INDIAN AFFAIRS

WILLIAM DEMMERT, DIRECTOR
OFFICE OF INDIAN EDUCATION PROGRAMS

WILLIAM J. BENHAM, ADMINISTRATOR
INDIAN EDUCATION RESOURCES CENTER

THOMAS R. HOPKINS, CHIEF
DIVISION OF EVALUATION, RESEARCH, AND DEVELOPMENT

PREFACE

As the recently appointed Director of Indian Education Programs for the Bureau of Indian Affairs, I have reviewed this document with great interest. I know only too well the importance of good information on Indian Education and I also know that there is an historical shortage of it. One contribution that I hope to make pertains to improving the quality of Indian Education Information. I believe that good, current information is necessary to the improvement of quality in the Education Program. Also, Indian people, who are making more decisions than ever before and who will be making an even greater number of them, need and deserve the best information possible. This report provides a description of the state of the art regarding BIA Education Information with special emphasis on that which is computer assisted. I believe that this document will be useful in planning some next steps toward making computerized information in Education a reality in the BIA--and toward providing an important tool for Indian decision makers.

William G. Demmert, Director
Office of Indian Education Programs

EDUCATION INFORMATION AT THE
BIA CENTRAL OFFICE LEVEL OF OPERATION

Dr. Dave Warren, Acting Director of the BIA Office of Indian Education Programs has on several occasions expressed concern that BIA Education be prepared to meet the needs of tribes as Indian Affairs moves to the implementation of Public Law 93-638, "The Indian Self-Determination and Educational Assistance Act." One key capability the Education activity needs and one that will have to improve is the quality and quantity of information. Indian tribes will be making decisions and it is the stated approach of the BIA Education that they be informed ones. The BIA's ability to assist tribes in making informed decisions is perhaps the under lying purpose for reviewing Education information.

This is the second paper that has the above title. The first was a survey aimed at providing an overview of activities to assist in identifying needs. The first paper dated January 22 is appended. Some of the definitions used in this paper were presented first in the January paper. It is suggested that the reader review the January paper in order to gain a better understanding of the background to this one.

The earlier paper has received extensive circulation and critique. Personnel of the BIA Computer Center were provided copies of it and have also participated in Education meetings concerned with information needs. It is important to point out that the relationship between the BIA Computer Center and the Office of Indian Education Programs, Indian Education Resources Center (IERC) has improved greatly within the past year. This improvement has seen daily and frequently hourly interplay between personnel of Education and the Computer Center. In this respect, one of the basic purposes for establishing the IERC was to establish and maintain a viable relationship with the Computer Center. This purpose is moving rapidly toward becoming a reality.

IERC personnel have participated extensively in the recent information sessions provided by the Computer Center wherein the BIA computer modernization program is explained. In addition, when IERC education division chiefs met to discuss this paper, members of the modernization program were present and made substantive contributions. Therefore, the general scope and content of this paper was established by acommittee of key education and computer center officials. Likewise, similar to the January paper, this one will receive extensive circulation throughout the BIA.

It is important to point out that meetings between IERC and the computer modernization personnel have culminated with a joint understanding that the Office of Indian Education Programs is well advanced in planning for modern information and data systems and has achieved a state of readiness that is ahead of most other BIA program offices.

One key point discussed with computer center officials concerned their proposed "data based management system." It appeared to Education that the data based approached to management was compatible with the proposed Education Information System, which is discussed in this paper. There are, however, some conditions which Education thinks are basic to a modern information system. First, it should receive support enough to be technically maintained. Technical maintenance of existing programs is a current serious problem. Second, the needs of Education require a higher priority within the Data Center operations that they now receive or have ever received. There continues to be skepticism on the part of Education concerning the control of computer services, and eventually modernized Education information, by Administration. The past experience has been rather consistent and simple, Administration has set Education's priorities. To have a modern Education Information System, this

arrangement will have to be modified. Considerable discussion of this point took place between Education personnel and computer center officials.

The Bureau's computer modernization program is having some frustrating moments for Fiscal Year 1976. While nine employees have been assigned to the program, there is no support budget for FY 76. When compared to the need, this approach becomes frustrating to program personnel and to computer personnel alike.

It appears to Education officials that there is spontaneous support throughout BIA, at all levels, for modernization. Education certainly strongly supports it and indications are that Area Offices do too. In fact, Area Offices are off and running on development of computerized capability. There is the expression of great need for modernization and it is hoped that greater support in FY 76 can be found for it.

A further review of the situation indicated that there are significant efforts at the Area Office level of operation. A data entry system pilot project is being developed for the Navajo Area. Great importance is placed on this project as related to the modernization program. The Billings Area Office has had computer capability for some time and represents another significant effort. Then, there is the developmental work of the Sacramento Area Office. In all, considerable effort in modernizing the BIA information base is taking place at the Area level of operations. It should be noted that it is much different from what was presented in the January Paper.

There is much more that can be reported regarding an Education Information System. First, there was a critique of the January Paper and while its overall findings were largely accepted, it was recommended that a single system be reported. This system is given in Table One.

In addition to Table One, a field trip was made by the IERC official to explore an existing Education Information System. The System visited was at Orlando, Florida, and was for the Orange County Schools. This System utilizes both locally developed computer programs as well as commercially prepared programs. Such a System correlates highly with the BIA need in school operations. This field trip was very helpful to this paper and made it possible to develop some alternative strategies, as compared to the approach presented in the January Paper.

The development of Education Information Systems is well advanced over three to five years ago, when BIA Central Office Education started working toward computerizing information. More developed programs exist now than previously and it would be worthwhile to explore them when compared to the high cost and long time it takes to do developmental work. When an existing program can be utilized, even with modification, this should be done. Education has had experience in both the use of existing programs and in developing them from the very beginning. The Division of School Facilities employed a Westinghouse developed program for facilities planning and it worked quite well. On the other hand, there was no existing system that would meet the unique needs of BIA Education that are reflected in the Student Enrollment System. So, BIA under contract with the General Services Administration, developed the Student Enrollment System from scratch. What the field trip to Orange County, Florida did was to provide an alternative to developing our own, with special reference to School Operations (see Table One). It also provided some crude but useful comparative information regarding costs.

The proposed Education Information System is composed of six Information Categories and twenty-three (23) subsystems. The six Information Categories are:

A. School Operations

B. Facilities

C. Public School Assistance

D. Career Development

E. Education Research and Evaluation

F. Building Maintenance

There are some qualifiers to some of the information reported in Table One. For instance, some subsystems are tentative and subject to modification. The ESEA program in BIA is computerized only to the extent that financial information is carried in the existing BIA computer files. It does, however, have an excellent manualized system that may in time prove adequate to the needs. Then there is that which is reported for Public School Assistance. Once this Information Category is explored in detail, the subsystems listed could change entirely.

It is also important to note in the proposed system that the existing Financial Subsystem is to be utilized. Wherever the Financial subsystem is listed as being operational, it refers to the one currently maintained by the Computer Center.

Another subsyster that is in existence and is not maintained by Education is that of school building maintenance. This subsystem is and will be maintained by Plant Management.

TABLE ONE

PROPOSED EDUCATION INFORMATION SYSTEM

Subsystem	Stage of Development: In Operation	Under Development	Pre-Development	Technical Classification: Computer Assisted	Manual	Combination
A. School Operations						
1. Collection non-eligibles	x			x	(x)	
2. Community			x	x		
3. Curriculum courses testing scheduling		x		x		
4. ESEA Programs			x		(x)	x
5. Financial	x			x		
6. Handicapped			x	x		
7. Out-of-class Activities		x		x	(x)	
8. Student Enrollment	x			x		
9. Staffing		x		x		
B. Facilities						
1. Enrollment Projections			x	x		
2. Equipment Purchases	x			x		
3. Inventory	x			x		
4. Planning		x		x		
5. Priorities	x					x
C. Public School Assistance						
1. Curriculum Offerings testing			x	x		
2. Financial	x			x	(x)	
3. Student Enrollment			x	x		
D. Career Development						
1. Adult Ed.		x		x	(x)	
2. Adult Voc. Training		x		x		
3. Financial	x			x		
4. Higher Ed.			x	x	(x)	
E. Education Research and Evaluation						
1. Statistical Packages			x	x		
2. Storage and Retrieval			x	x		
F. Building Maintenance	x			x		
Total Subsystems = 23						
TOTAL:	9 (39%)	5 (22%)	9 (39%)	21	6	2

NOTE: x's in parentheses indicates an existing manual system

The organization of Education Information presented in Table One is the first time that BIA has been provided with this particular concept. Coincidentally, it reflects much of the administrative organization of BIA but there is by no means one-to-one congruence. A brief discussion of each Information Category follows.

School Operations: This category includes current Federal school operations and tribal-contract schools. It is this information that would be useful to tribes considering the control or contracting of currently Federal schools. Too, after a tribe takes over, this category would continue to be useful to both the tribe and the BIA as a basic management tool. Use of existing programs would be a considerat for this category.

Facilities: The Facilities Category is well along to becoming operational. It should be noted that the "Priority Sub-System," which is operational, is a combination computer and manual system.

Public School Assistance: Most of the information on this category that now exists emanates from manual efforts. Excepting for minimal computerized financial information, it is all manualized. In a sense, this category is entering a readiness stage regarding development.

Career Development: The efficacy of the Career Development concept regarding Self-Determination is emerging. The very recent report of the Oklahoma Indian Education Needs Assessment (March 15, 1976), reflects general needs that relate strongly to Education's proposed Career Development concept. It would appear that the development of the computerized system in Career Development, as perceived and as under development by Education, would be a wise direction. (Note: It is difficult to understand how Career Development could

possibly be classified as analogous to "Job Placement." Research in education indicates a need for Career Development programs. If the BIA implements Career Development as the narrow concept of job placement, the identified education need will go unmet. Education will then have to come forward with requests for financial resources to meet identified education needs of Career Development).

Education Research and Evaluation: There are a growing number of requests for this type of information and as a planning tool in support of Self-Determination, it is essential. The concept presented in Table One refers to computer programs of statistical packages in Education and the Social Sciences. These programs exist and can be purchased inexpensively. What is needed is computer programmers who understand them and can use them. Then, there is the need to computerize some of the BIA evaluation and research data. This is a growing mass of information in which there is already a backlog. This latter is most important regarding support of tribal control of education.

Building Maintenance: This was discussed above and refers to the existing computerized system.

There are procedures, in addition to the proposed information system, that already exist and should be continued. These are paper type procedures that provide information or a service essential to management. Some of them were reported in the January paper in Table One. The paper procedures that need to be continued are:

1. Changes in Schools, a form already used
2. Curriculum Bulletins, as they exist
3. Education Dialogue, a newsletter

4. Education Research Bulletin
5. IERC Bulletin
6. Paper Files, as they exist
7. Publications from time to time, i.e., Steps to Progress
8. Placement of Graduates, needs to be revised
9. Research and Evaluation Report Series, as they exist
10. Codes of Student Conduct from each school, as required in 62BIAM 9

There may be others that should be added to this list, which can be done as time goes on.

Any consideration of a computer assisted information system must take into account such matters as costs, personnel and hardware. Then, there is the consideration of technical maintenance.

Within BIA, the Central Office Education experience with computer assisted systems indicates that technical maintenance is such a problem that the system is hardly kept going. The net effect is that computer assisted systems in education have not worked efficiently or effectively to benefit the education program. Education simply has not had a high priority in the BIA computer center. This is not a new fact as it was reported last year in an Interior Department evaluation of the total BIA system.

An example of the meaning of the problem of technical maintenance of a program may be taken from the new Student Enrollment System. First, the BIA computer system said some three years ago that it would be best to develop the program outside of BIA. This was done with GSA. The program was delivered to the BIA so that it could be fully operational by the conclusion of the School Year 1975-76. This meant that starting in September 1975 that Education was going to make demands on the computer center in an unprecedented

manner. This has occurred and in spite of the willingness of computer center personnel and the cooperative attitude of all concerned, the net effect is marginal technical maintenance. Computer programming has improved, also, technical capability regarding the computer was modified and improved. Yet, the work of Education still remains in a low priority and the work languishes and is not kept up. This is only one system out of 23. Technical maintenance of the computer program must be given basic consideration. It is the general belief of Education that the modernization program is greatly needed and that no significant improvements in Education information will be made without it. From all research done by Education, new computers are needed and new programs are required. All of this is being considered by those in charge of the modernization program.

The cost of the proposed Education information system cannot be accurately projected at this time. A great deal more will have to be done regarding determination about what existing programs can be adapted and which ones will have to be developed. Developmental costs are very high and time consuming.

The field trip to Orange County Florida was instructive regarding costs. The Orange County system has 20,000 more students than BIA (50,000) and maintains an IBM program complete with data processing, programming, and computer costs for about $750,000 annually. This is perhaps less than half of what Education now pays for computer services from the computer center and according to the Departmental evaluation, Education receives less than eight percent of the total output of the center. It is a rough estimate that the computer center today supports not more than ten percent of the Education need.

It is recommended that the proposed Education System be supported with an annual allocation of one million dollars for the next five years. At least five and most probably seven positions for computer programmers and systems analysts will be needed. Computer programmers should be assigned to Education. Then, remote job entry capability and printing support should be installed in Education so that there is ready access to computerized information. Technical maintenance can be achieved by following this approach. This arrangement does not in any way jeopardize the modernization plan calling for a data based management system. What is proposed is that Education and other program offices maintain control of their computer services much more than has been done in the past. While a central modernized computer center may be established, control of the center needs to be shifted to program offices. The idea of one administrative function providing services to program offices is seductive, but when it comes to computer assisted services, it does not work for Education.

The computer and information situation is changing rapidly in BIA. The modernization program is greatly needed and it is hoped that it will receive the support necessary to make it a reality. BIA Education strongly supports the modernization program and wants only to be better equipped so that it may become the strong technical service agency which may confidentially reflect the needs of Indian Self-Determination.

EDUCATION INFORMATION AT THE BIA CENTRAL OFFICE LEVEL OF OPERATION

The Approach

This Paper reports the results of a survey of BIA Central Office Education.

The objectives of the survey were to:

(1) Determine the total scope of Education Information currently being reported;
(2) Identify the methods being used in developing the information;
(3) Determine those developments that will add to and/or replace existing information;
(4) To provide an analysis of Education Information with recommendations.

A few basic definitions were used in the survey. They are taken from the book, Management Information Systems, Tools and Techniques by William A. Bocchino.

Management Information System (MIS):

(1) The channels of information flow that feed back operations data for analysis, management decision, and implementation to exercise control in order that the organization reach its objectives.
(2) A system designed to supply the managers of an organization with the information they need to keep informed of the current status of the organization to understand the implications, and to make and implement the appropriate operating decisions.

System:

(1) Elements interrelated for a purpose.

(2) An assembly of procedures, processes, methods, routines, techniques, or hardware united by some form of regulated interaction to form an organized whole.

The Existing Situation

The existing situation was divided into three groups of systems which together total some thirty (30) , Subsystems. It is perhaps stretching the definition of system to classify all of these in this manner. However, considering

that a large number of them predate modern automation theory and techniques, this classification is not unreasonable. Therefore, there are twenty-nine subsystems of information available to decision-makers at the Central Office level of operation.

It should also be understood that an information system is as old as management and has only recently developed a strong relationship to computers and related modern technology. Organizations have always had systems whereby decision-makers gathered information to be used for management purposes. The employment of modern technology has not necessarily changed the basic concept of an information system. An information system may or may not employ the use of modern technology and would nonetheless remain legitimate. Indeed, there are some types of information that simply do not need to be computereized or because of their nature, cannot as yet be handled by computers due to the limitations of modern technology. So, just because some systems are not computereized is little reason to assess them as inadequate. On the other hand, the advantages of modern technology regarding some systems, such as student enrollments, are obvious. A balanced approach should be employed when assessing adequacy of information systems.

TABLE I -- EDUCATION INFORMATION, BIA CENTRAL OFFICE

Type of Information	Computer Assisted	Manual	Combination Computer & Manual	Operational	Developmental	Proposed
I Education Information System	X			X	X	X
A. Financial (1)	X			X		
B. Student Enrollment (2)	X			X		
C. Facilities	X		X	X	X	X
1. Planning Model (3)	X				X	
2. Enrollment Project (4)	X				X	
3. Equipment Purchase (5)	X				X	
4. Priorities System (6)			X	X		
5. Inventory (7)	X			X		
D. Curriculum (8)	X				X	
E. Staff Utilization (9)	X					X
F. Community (10)	X		X			X
G. Career Development (30)	X				X	
II Extant Sub-Systems Created and maintained by Administration	X			X		
A. Financial	X			X		
B. Personnel (11)	X			X		
C. Tribal Enrollments (12)	X			X		
D. Maintenance of School Buildings (13)	X			X		
E. Social Services (14)	X				X	
F. Land Records (15)	X			X		
II Extant Sub-Systems Within Education						
A. Public School Assistance (16)		X		X		
B. Higher Education (17)		X		X		
C. Adult Education (18)		X		X		
D. Student Attendance (19)		X		X		
E. Student Enrollment (20)		X		X		

EDUCATION INFORMATION, BIA CENTRAL OFFICE

Type of Information	Computer Assisted	Manual	Combination Computer & Manual	Operational	Developmental	Proposed
F. Collections on Non-Eligibles (21)		x		x		
G. Changes in Schools (22)		x		x		
H. Placement of High School Graduates (23)		x		x		
I. Student Rights and Responsibilities (24)		x		x		
J. Research, Evaluation Reports (25)		x		x		
K. Curriculum Bulletins (26)		x		x		
L. Paper Files (27)		x		x		
M. Annual School Census (28)		x		x		
N. ESEA Title Programs (29)			x	x		

TABLE II — OPERATIONAL SUBSYSTEMS

Type of Information	Computer Assisted	Manual	Combination Computer and Manual
1) Financial	x		
2) Student Enrollment	x		
3) Facilities Priorities			x
4) Facilities Inventory	x		
5) Personnel	x		
6) Maintenance of Buildings	x		
7) Public School Assistance			x
8) Higher Education			x
9) Adult Education			x
10) Student Attendance		x	
11) Student Enrollments (old system)		x	
12) Collections on Non-Eligibles		x	
13) Changes in Schools		x	
14) Placement of High School Graduates		x	
15) Student Rights and Responsibilities		x	
16) Research, Evaluation Reports		x	
17) Curriculum Bulletins		x	
18) Paper Files		x	
19) Annaul School Census		x	
20) ESEA Title Programs			x

Table II provides a summary of operational systems or subsystems available today to top managers in the Office of Indian Education Programs. It should be noted that three of these are taken from those created and managed by Administration. These three are Financial, Personnel, and Maintenance of School Buildings. This leaves three other systems available but the Tribal Enrollments, Social Services (which is developmental) and Land Records were considered perhaps minimal to decision making in Education. However, all six are available to Education decision makers with three probably being the most important.

TABLE III — SUBSYSTEMS BEING DEVELOPED

Type of Information	Computer Assisted	Manual	Combination Computer and Manual
1) Facilities Planning Model	x		
2) Facilities Enrollment Projections	x		
3) Facilities Equipment Purchase	x		
4) Curriculum	x		
5) Staff Utilization	x		
6) Community	x		
7) Career Development	x		
TOTAL:	7		

It should be noted that those listed as developmental do reflect modern technology and in this sense modern management theory and techniques. All of the above are subsystems within the Education Information System.

21 While this survey does not cover Area Office activities in Education information, a brief review of the situation via telephone did reveal that there

were few significant developments. There is a need for more and better information but Area Offices use the same system that is used by the Central Office. In this respect, there is broad support of information systems within the BIA all the way from the school to the Central Office and vice versa. There is little resistance to developmental efforts and one can count on general support. Caution is advised during developmental work that it be carefully coordinated and that it not duplicate existing useful subsystems.

Though not specifically picked up in this survey, it is known that Area Offices conduct a number of very useful one-time reviews, surveys, and research type activities that are not reported to the Central Office and thereby enter none of the Central Office subsystems. On the other hand, it is known that Area Offices forward these reports to the Central Office and due to management procedures of the Central Office, go unrecognized and enter none of the existing subsystems. There is Education information available that could be added to existing subsystems.

Analysis and Recommendations

The above survey is quite limited and does not go into a depth analysis of the various subsystems. It does, however, provide a reliable scope of Education information that is available and that is under development.

Recommendation One: An indepth survey of Education information needs should be conducted and this should lead to a master plan for all programs administered through the Bureau of Indian Affairs.

It is obvious that there is a mass of information available to decision makers at the Central Office level of operations. While the usefulness of

of this information may in many instances be questioned, there is still a great deal that is very appropriate.

Recommendation Two: Better uses need to be made of existing information and decision-making strategies should be developed that include a feed-in of existing information.

Coordination between Education and the ADP Center in Albuquerque has improved considerably within the past two years. Intra-office coordination has likewise improved over the past few months. Much of the improvement can be attributed to the fact that Central Office Education personnel work on a daily basis with each other on common problems and are likewise located across the street from the ADP Center.

Recommendation Three: That coordination between Education and ADP be continued and ways explored to strengthen it and that intra-office coordination likewise be continued and strengthened.

Recommendation Four: Coordination between Area Offices and Central Office be strengthened and improved.

The developmental efforts underway reflect modern concepts of management information systems. The subsystems that have been proposed and are under development are flexible and employ modern technology in most every respect. There is broad support within the Bureau for them.

Recommendation Five: The Education Information System is underway and relates well to existing and projected needs of BIA Education and, therefore, should be supported in its implementation.

Any analysis of information that is performed requires some standards or criteria to be employed.

Any information system requires standards in order to achieve effective use, especially regarding evaluation and accountability. Currently, there are standards being used in the analysis of information but there is no formalized set of standards in BIA Education.

Recommendation Six: One of the earliest tasks to be achieved would be the development of education standards for BIA. This can be accomplished simultaneously with an indepth look at the total information needs of Education.

Concluding Comments

Central Office Education has been working on modernizing the management of education for at least a period of seven years. These prolonged and sustained efforts have in recent months begun to bear fruits in that a total Education System has been developed which primarily reflects school operations and facilities. The important aspect of this development lies in the fact that a closer and more productive relationship has been established between Education and the BIA Computer Center, which controls access to computer services in BIA. Future developments in Education will go hand-in-hand with the Computer Center.

Without appearing to be self-serving, one main objective of locating the Indian Education Resources Center in Albuquerque was because of access to and being located in close proximity to the Computer Center. The wisdom of this move has produced results that were not heretofore present.

The situation regarding modern information systems in BIA Education is a dynamic one that is fast changing. Caution is advised so that coordination be sensitive and thorough; that users do not attempt to expect results too soon or to be too disappointed to learn that modern information systems, while excellent, are not and cannot provide simplistic panaceas to all BIA Education problems.